DOCUMENT RESUME

ED 057 899 PS 005 166

AUTHOR Reimanis, Gunars
TITLE Effects of Experimental IE Modification Techniques and Home Environment Variables on IE.
BUREAU NO BR-9-B-065
PUB DATE Sep 71
NOTE 13p.; Paper presented at the 79th Annual Convention of the American Psychological Association, (Washington, D.C., September 3-7, 1971)

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS Behavior Change; *Child Development; College Students; Elementary School Students; Environmental Influences; Experimental Programs; *Family Environment; Females; Hypothesis Testing; Males; *Personality; Research; Sampling; *Self Concept; *Sex Differences; Theories
IDENTIFIERS Bialer Locus of Control Scale; Intellectual Achievement Responsibility Scale; Rotter Internal External (IE) Scale

ABSTRACT

The research presented in this document has two main hypotheses: (1) From locus of control theory, it was predicted that a warm, supportive, and consistent or stable home environment relates positively to internal control; (2) Methods derived from locus of control theory which increase an individual's observation and experience of behavior-effect contingencies give rise to more internality. Three samples were used to assess home environment correlates of locus of control. Another three samples were used to assess the validity of the second hypothesis. General conclusions are that the research at least partly supported the first hypothesis. There were sex differences in all samples with respect to the internal controls. For males, a warm, supportive, and consistent home environment related positively to internality. For females, there was support for the notion that less stable home conditions force girls to seek more self-reliance and become more internal. The second hypothesis was supported by the finding that perception of internal reinforcement control increased in early graders and college students at the conclusion of locus of control counseling efforts. (CK)

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

ED057899

Effects of Experimental IE Modification Techniques and Home Environment Variables on IE [1,2]

Gunars Reimanis

Corning Community College

I became interested in locus of reinforcement control after finding that internal control may facilitate the development of achievement striving (Reimanis, 1968, 1970). I set out to look at the antecedents of locus of control in terms of home environment correlates and experimental attempts to produce situations that theoretically should affect locus of control. I have collected data at various age levels in order to move closer toward understanding at what age levels what kinds of antecedents are dominant and at what age levels by what methods can one produce change in locus of control.

The research that I shall present today had two main hypotheses. First, from locus of control theory (Rotter, 1966; Lefcourt, 1966) it was predicted that a warm, supportive, and consistent or stable home environment relates positively to internal control. It seemed that such a home environment would be necessary to foster the development of perception that one's rewards or punishments are contingent on one's behavior.

The second hypothesis was that methods derived from locus of control theory which increase an individual's observation and experience of behavior - effect contingencies give rise to more internality.

PS 005166

---

[1]Prepared for presentation at a Symposium on "Developmental Aspects of Locus of Control Expectancies: New Methods and Prospects" at the 1971 APA meetings, Washington, D.C.

[2]Most of the research has been supported by USOE Project No. 9-B-065

Home Environment Variables

Method

Three samples were used to assess home environment correlates of locus of control. Since the data collection procedures were different for the various samples the research is presented separately for each group.

Sample I

Children from two first and two third grades were selected for the first sample. Forty-eight parent interviews (about half the parent sample) were arranged to assess the child's home environment with respect to a series of variables, such as residential mobility, satisfaction with lot in life, and the degree to which punishment depends on mood.

To assess internal reinforcement control in the first grade a cartoon-type open-ended questionnaire developed by Battle and Rotter (1963) was administered.

For the third grade, in addition to the cartoon-type questionnaire, a twenty-three item scale developed by Bialer (1961) was used.

Results and Discussion

The results partly supported the hypothesis that, warm, consistant, and supportive home environment relates positively to internality. Significant positive ($p < .05$) correlation coefficients were obtained between internality and father's occupation level, parent's positive view of child's behavior, concern for child's welfare and future, the degree to which punishment was planned rather than depended on parent's mood, and amount of training that was used to control the child's feelings.

The scope of this paper does not permit the presentation and discussion of results comparing the first graders with third graders and comparing the two locus of control indices used for the third graders. In general, the cartoon-type scale and the third graders yielded more significant relationships than the Bialer scale and the first graders. It may be of value, however, to look into some interesting sex differences. The results showed a significant negative correlation between internality and residential mobility for girls, but also a significant positive correlation for boys. Both of these were using the cartoon-type scale. It may be possible that residential mobility is often connected with father's employment change and a boy, identifying with his father, may see such change as a planned step toward general improvement. Perhaps a girl, identifying with her mother, may see residential mobility as creating a temporary chaos with household duties and as an act which is necessary in order to travel along with the bread-winner in the family. Most of the reasons for residential mobility had to do with job changes.

A second significant sex difference was obtained in the correlations between internality and number of children in the family. Number of children had a significant negative correlation with internality for boys and a significant positive correlation for girls. It may be possible that for boys a larger family provides more competition for father's attention. Possibly the father cannot provide enough consistent interaction with all of his children. With respect to the girls, a larger family may provide more opportunity for identifying with mother by trying out "motherly" behaviors with siblings or in household duties. It is also possible that in a larger family it is more difficult for girls to take on the more traditional female role of dependency since attention and nurturance has to be divided among a number of children.

In such cases the girl has to learn to rely more on herself for need satisfaction, and thus has to know what the behavior - effect contingencies are in a particular setting.

Sample II

The second sample consisted of two hundred and one elementary school pupils in grades three through six.

To assess internal control the same scales were used as in Sample I. In addition, the Intellectual Achievement Responsibility Scale (IAR) was also included (Crandall et al, 1965). The latter scale is subdivided into scales measuring acceptance of responsibility for academic success and for academic failure.

Home environment was assessed by teachers on a four point scale. A score of one represented a very unstable home and four, a very stable home.

Results and Discussion

In general across the grades and tests the significant positive correlations were between internality and stable home environment. For girls in the third grade, however, there was a significant negative relationship between Responsibility for Academic Success and stable home environment. The question may be raised as to whether an unfavorable home environment required the girls to acquire more independence. Perhaps they have to become more familiar with their own behavior - effect contingencies in such a setting. The results from this sample are not consistent enough to explore this question further at this point.

Sample III

One hundred and one community college students were used in this sample.

To assess locus of control Rotter's I-E scale was administered (Rotter, 1966). To assess home environment a Childhood Experience Questionnaire (Reimanis, 1966) was administered. The students responded on this questionnaire by indicating agreement or disagreement on a six point scale to items, such as "I know from my personal experiences as a child what it is to have a father who does not have any definite goals in life".

Results and Discussion

Results from forty-seven males supported the hypothesis. That is, items that correlated positively and significantly with the I-E scale suggested a warm, supportive, and consistent home environment, such as having parents who love and admire each other, having a mother and father who think highly of their son, having the kind of mother that children always feel free to confide in, having a father who praises his children when they get good grades in school, having a father who encourages his son to make his own decisions, to try things on his own early in life. Items with negative correlations suggested inconsistent environment, such as, having parents who quarrel, having a mother who acts as if she does not care for her son, who does not appreciate her son, who never really wanted her son to achieve anything in life, who does not have herself any definite goals in life, who always set her son's goal so high that he could never really reach them, and having a father who distrusts his son.

For females, however, there were only four significant relationships on the fifty-two items. Two of these, having a mother who acts as if she

PSYCH

does not care for me; and, having a father with whom I have little in common, showed a positive relationship with internality, and one item, having a father who praises his children when they get good grades in school, showed a negative relationship with internality.

If one can consider the few significant correlations as meaningful, it may be that warm and accepting families raise daughters according to the more traditional belief that females should be more dependent on others as compared to boys. Boys may internalize cultural or social norms while girls may see the norms as external restrictions. Perhaps in instances where the home environment is somewhat rejectant the daughter is forced to be more independent, and thus has to learn her own behavior - effect contingencies in order to satisfy her wants. Supporting this notion is the fact that the sex differences found in the college sample appear to be somewhat similar to those found in the first two elementary samples.

Experimental Modification of Locus of Control

Sample I

Ninety-six children from first and third grades were used as subjects.

On basis of internal control scores on the cartoon-type measure, Bialer's scale and teachers' rating of children on a four point scale, those in the lowest quartile were selected for experimental and control groups.

Over a period of three months I held weekly meetings with the experimental group teachers. During these meetings methods were discussed on how one may modify the classroom procedures to help the children develop a feeling of internal control. The teachers in the experimental groups were aware of which were the experimental children and, as time permitted, gave these children more individual attention with respect to learning about their behavior

consequences and consistency in the environment around them. During the weekly counselling sessions it became apparent that the teachers could not pay close attention to more than three children each. One more child was eliminated because of extended illness. Thus the final total experimental group had two girls and three boys. During the latter half of the counselling sessions reinforcement principles were used with each of the children. What appeared to be reinforcing to each child was identified and then the teachers attempted to use this in order to point out behavior - effect contingencies. After the three month period all children were retested on internal control.

Results and Discussion

The hypothesis that locus of control can be modified by intervention techniques was partly supported. The children's scores on the cartoon-type scale changed significantly toward more internality.

When the experimental group was compared with a control group of ten subjects, the experimental group showed significantly greater change toward internality.

Further evidence for the support of the hypothesis came from records of the weekly counselling sessions. It was quite apparent that all five children in the experimental group showed much more behavior that would be associated with internal control toward the end of the sessions than at the beginning. At the end of the sessions the experimental children appeared to know and be interested in what they were doing. They were more a part of their class projects and the teachers could rely on them more. At the beginning of the sessions these children were quite different. Some did not appear to be part of the class. Some showed inappropriate behaviors in the class. Some showed complete lack of interest in classroom activities. And some demanded constant attention from the teachers.

In a follow-up after a one-year period there seemed to be no permanent improvement in academic achievement for the experimental children. However, there was a trend showing that the experimental children put forth more effort in their studies following the treatment.

Sample II

The subjects were two hundred and eighteen randomly selected community college students. On basis of the I-E scale forty students from the lowest fifth on internality were selected for further study. Twenty of these were randomly assigned to the experimental group and twenty to the control group. The experimental group was further subdivided into groups of six to seven and received weekly group counselling with the goal of increasing belief in internal control.

Perhaps because low internality individuals, by inference, find little meaning in education or counselling, and because many of the experimental students had very complex home and school problems, it was possible to conclude the counselling sessions with only one group of six students. After six weeks of counselling all groups were retested on I-E.

Because of the large attrition in the experimental group, a second sample of low internal control students was selected for a similar study during the following year. The procedure was about the same except that over a ten-week period individual rather than group counselling was used with eight students. The second study was concluded with data from six students in the experimental group and with seventeen in the control group.

In the group counselling sessions, the subjects were encouraged to talk about themselves and their problems. During the first few sessions, the counsellor confronted the students with such statements as, "What could you have done about it?" or "Why did you let them take advantage of you?"

or, "What do you want to do?" After a while the other group members picked up this theme and confronted one another in turn. With each confrontation the counselor attempted to replace an external control statement made by the subject, such as, " I am in college because my father wants me to be an optometrist," with an internal one, such as, " I want to learn more about people".

In the second part of the study, during the initial sessions in individual counseling, each student was encouraged to talk about himself. Specifically he was asked about his vocational goals, his educational goals, and his previous schooling. Attempts were made by the counselor to facilitate conversation using non-directive techniques. As the sessions progressed specific problem areas became apparent. In each case the subject was asked to explain more thoroughly the problems he brought out. At each external response the student gave, the counselor interrupted and asked the students to analyze the statement: why did he say what he said and what could he have done to prevent what happened? The attempt again was to replace an external response made by the student with an internal one. In addition, the student was encouraged to transfer the internal thoughts to future events. That is, now that he knows what he could have done, what will he do in the future?

Results and Discussion

Results from both samples showed support for the hypothesis. The experimental students increased significantly in internality with no significant increase in the control subjects.

From counselling records it was quite apparent that most of the students talked much more about their own responsibility in continuing their education and solving their interpersonal problems toward the end

of the counselling than they did at the outset. Toward the end of the sessions a number of students also moved behaviorally in the direction of internality. Examples were: taking own apartment, changing programs of study, seeking out instructors to find out where they stood in a course and what they needed to do in order to get good grades.

Sample III

The subjects were 237 community college students who had enrolled in achievement motivation training courses.

The achievement motivation training sessions were patterned after Alschuler's work (1970). The course exposed the students to personal interaction with other students and to various achievement strategies and thoughts. Through participation in game situations the student was given a chance to explore his own level of aspiration and achievement thoughts. The course was designed and offered for the purpose of helping students to adjust to college, to facilitate their career planning, and to increase their motivation in pursuit of their goals.

To test the hypothesis the I-E scale was administered before, immediately after the session, and again after one-to-two months, and after seven months following the course. Since data for the follow-up studies were obtained from decreasing size random samples of the total student body,the number of subjects on retests who had taken the achievement motivation course decreased to eighty-four after the one-to-two-month period, and to twenty-eight after the seven-month period.

Results and Discussion

The results supported the hypothesis showing a consistent significant increase in internality following the achievement motivation sessions. There were no significant differences between males and females. After the one-to-two-month period there was a significant decrease in internality. However, the decrease was not large enough to wipe out the previous increase. The increase from the pre-achievement motivation internality scores to the follow-up period was still statistically significant.

After the seven-month period, the initial increase in internal control for females had disappeared. For the male students, however, a significant increase still remained.

The second follow-up period again points up possible sex differences with respect to characteristics of locus of control. A possible explanation for the sex differences may be that due to traditional early social learning the female students were not as career or competition oriented, and as a result the achievement motivation training procedures were less relevant to them as compared to the males. The females increased in internal control immediately following the training, but then they may have discovered that the role they felt more comfortable with was not career or long-range goal oriented.

CONCLUSION

In general, the research at least partly supported the first hypothesis: internal reinforcement control was related predictably to home environment. There were some interesting sex differences in all samples with respect to the internal control - - home environment relationships. It seemed that for males a warm,supportive, and consistent home related positively to internality. For females, however, the relationships were not as consistent.

There were some support for the notion that somewhat less stable and less supportive home conditions may force the girls to seek more independence and self-reliance and thus become more internal.

The second hypothesis was supported by the finding that perception of internal reinforcement control increased in early graders and college students at the conclusion of locus of control counselling efforts. For males there was definite evidence that achievement motivation training produced an increase in internality that was still significant after a seven month follow-up period.

My present efforts are in further experimentation with induced locus of control changes in eighth grade boys and in individuals at the other end of the developmental continuum: namely, elderly men. I have become more concerned about the possible contaminating factors in locus of control measures, especially after reading Hjelle's (1971) recent study on I-E and social desirability. I am, therefore, very glad to see that several of my colleagues at this symposium are devoting time to scrutinize existing locus of control measures and to develop improved techniques.

REFERENCES

Alschuler, A.S., Tabor, Diane, and McIntyre, J., Teaching Achievement Motivation, Middletown, Conn.: Education Ventures, Inc., 1970.

Battle, E.S. and Rotter, J.B., Children's feelings of personal control as related to social class and ethnic groups, Journal of Personality, 1963, 31, 482-490.

Bialer, I., Conceptualization of success and failure in mentally retarded and normal children, Journal of Personality, 1961, 29, 303-320.

Crandall, V.C., Katkovsky, W., and Crandall, V.J., Children's beliefs in their own control of reinforcements in intellectual-academic achievement situations, Child Development, 1965, 36, 91-109.

Hjelle, Larry A., Social desirability as a variable in the locus of control scale, Psychological Reports, 1971, 28, 807-816.

Lefcourt, H.M. Internal versus external control of reinforcement: A review, Psychological Bulletin, 1966, 65, 206-220.

Reimanis, G., Childhood experience memories and anomie in adults and college students, Journal of Individual Psychology, 1966, 22, 50-64.

Reimanis, G., Teacher-pupil interaction and achievement striving in the kindergarten, Psychology in the Schools, 1970, 7, 179-183.

Rotter, J.B., Generalized expectancies for internal control of reinforcement, Psychological Monographs, 1966, 80 No. 609 (1).